DOCUMENT RESUME

ED 189 867 FL 011 448

TITLE	The Sound System of English for Teachers of English as a Second Language.
INSTITUTION	Ontario Ministry of Culture and Recreation, Toronto.
REPORT NO	ISBN-0-7743-3011-2
PUB DATE	Jun 79
NOTE	47p.
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adult Education: *English (Second Language); Intonation: Motor Reactions: Phonemes: *Phonetics: *Pronunciation Instruction: Second Language Instruction: *Stress (Phonology); *Suprasegmentals

ABSTRACT

This guide to teaching English pronunciation to speakers of other languages begins with sections on stress, rhythm, and intonation. A large section is devoted to specifics of phonetics. Topics covered include vowel and consonant sounds, instructional goals, phonemes and allophones, the phonemic alphabet, pronunciation drills, timing of class activities, means of conveying specific sounds, recognition and production, vocal bands, and position and manner of articulation. Specific pronunciation problems of French, German, Greek, Hungarian, Italian, Japanese, Portuguese, Chinese, and Spanish students are described. The text is illustrated with anatomical cross-sections related to vocal production. (JB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

The sound system of English

for teachers of English as a second language

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
L. Butovsky, OMCR
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED189867

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

FL011448

INTRODUCTION

Most people, when they think of the pronunciation difficulties involved in learning English as a second language, think in terms of single English sounds. They may have noticed that Italians often drop initial h's; that Germans say "tank you" for "thank you" etc.

There are, however, two other features of the English language - and every other language for that matter - that are just as important as the sounds of the vowels and consonants.

These two features are:

1) Stress and rhythm

2) Intonation

Because these two features are so important yet so often overlooked in the teaching of English as a second language, they are considered in Sections 1 and 2 of this outline. Section 3 deals with vowel and consonant sounds.

SECTION I

STRESS AND RHYTHM

We are all aware that in English some syllables are emphasized more than others. This is true whether we are speaking of single words or word-groups. Misplacing of these stress points can make a word or a word-group almost unintelligible. Try misplacing the normal stress in the following and see how difficult they are to understand:

Comfort	I'd like to
breakfast	a tomboy
example	I thought so

Read the words again with correct stress and note these three characteristics of the stressed syllable. The stressed syllable is

1) louder 2) longer 3) higher

Stress on the single word

1. Reduction of the Unstressed Vowel

In English, it is usually only the vowel in the stressed syllable which is given its full vocalic value. Say the words "comfort" and "breakfast" and note the reduction or weakening of the vowel sound in the second syllable of both words. Vowels in unstressed syllables sometimes disappear altogether e.g. "interestingly". The vowel sound / ɛ / (first vowel sound in "example") does resist this tendency a little more than the other vowel sounds, but even this resistance is overcome at times. Students have a great tendency to over-pronounce the unstressed syllables in English, giving their speech a very un-English quality. This tendency is even stronger where there is a reading approach instead of an oral approach in the earlier stages of instruction. (See page 35 - Central Vowels for further discussion of the unstressed vowel.)

2. Stress and Meaning

Changing of the stress pattern of words in English can cause a change of meaning in many cases. Consider the difference between

import (noun) stressed on the first syllable

and

impórt (verb) stressed on the second syllable

Other words of this type are:

conduct, detail, increase, object, subject

When teaching new vocabulary, indicate the stressed syllable by capitalizing it, underlining it or marking it with an accent mark. Use whatever method you find most convenient and your students find most helpful.

Levels of Stress

In longer words, phrases or sentences there is often a secondary stress, for example, in a phrase containing an adjective and a noun, the noun would ordinarily receive the primary stress /ˊ/ and the adjective a secondary stress /ˆ/.

B^ig	bóok	lô^ng	wáy	pô^ssibílity
sô^ft	chá^ir	gô^od	tíme	û^nappróachable

A very common stress pattern is found in a phrase containing two nouns with the first one functioning as an adjective. In this type of phrase the primary stress comes on the first noun while the second noun is lightly stressed. This light stress, indicated by a grave accent /ˋ/ is also known as tertiary stress. The following combinations are often called compound nouns.

shóe stòre	stréetcàr
ráin còat	sún pòrch
bédròom	stáirwày
mátch bòx	drúg stòre

See Introduction to Canadian English, Book II, Unit 11, page 9.

A variation of the above stress pattern is the one in which either part of the compound noun combination has more than one syllable. In this case, the second word has a secondary stress instead of a tertiary stress.

flówer shô^p

stéak dî^nner

líving rô^om

tobácco pô^uch

Note that the second syllable of the words "flower", "living and "dinner" and the first and third syllable of "tobacco" are unstressed. Unstressed syllables are left unmarked.

English speakers distinguish four levels of stress. They are:

strong	(primary)	/ ˊ /
medium	(secondary)	/ ˆ /
light	(tertiary)	/ ˋ /
weak or unstressed		no marking

However, teachers of students at the basic and intermediate levels will probably find it advisable to concentrate on three levels - strong, medium and weak.

As an illustration of the part that stress can play in expressing meaning in English we might compare the following:

the gréenhòuse	(a place for plants)
the gréen hóuse	(a house coloured green)
the Gréen hóuse	(the house where the Greens live)

or

1. Did you ever see a hórsefly?
2. Did you ever see a hórse fly?

Sometimes the difference in pronunciation of a noun, and adjective or a verb is simply the result of the secondary stress being omitted in the noun or adjective but used in the verb.

Noun	Verb	Adjective	Verb
cómpliment	cómplimênt	séparate	séparâte
éstimate	éstimâte	móderate	móderâte
súpplement	súpplemênt	eláborate	eláborâte

The stress patterns found in polysyllabic words often come close to being duplicated in phrases and short sentences.

Compare

Word	Phrase	Sentence
inférm	you tóo	I dó
económy	the rést of them	they tálked to him
ôrganizátion	thôse who are cóming	Jôhn can be trústed

RHYTHM

Rhythm (determined by the placement of stress) and intonation together make up what is often called the 'speech flow' or 'sentence melody' of any language. The rhythm of English is known as stress-timed. In this type of rhythm, the length of time taken to say a sentence depends on the number of stressed syllables, not the total number of syllables, in it. This is in contrast to syllable-timed rhythm, characteristic of Spanish or French, where the length of time taken to say a sentence, depends, not on the number of stressed syllables, but on the total number of syllables in the sentence.

This feature of stress-time rhythm in English usually constitutes one of the greatest difficulties for the foreign student, who generally overpronounces the unstressed syllables.

This is because, although sentence No. 1 has only 10 syllables, 9 of them are stressed; and although sentence No. 2 has 19 syllables only 3 of them are stressed, and as pointed out previously, it is the number of stressed syllables there are in a sentence that determines the length of time required to say it. Results would be quite different if the above 2 sentences had been in Spanish. In Spanish, each syllable would be given approximately the same length of time and as a result sentence No 2 with 19 syllables would take almost twice as long to say as sentence No. 1.

To the English ear a language with syllable-timed rhythm sounds much like a machine gun. On the foreign ear, English could have more of a cannon effect - BOOM da BOOM da da etc.

The following exercise could be done with your class to show the working of stress-timed rhythm. The use of a metronome can make the point even more vivid.

	buy	a	book
I	buy	a	book
I	buy	them a	book
I can	buy	them a	book

In the four sentences in the above table the words in column 2 and 4 are the only ones stressed. The time allowed for the unstressed words in columns 1 and 3 remains roughly the same in each successive sentence, since the space between the stressed words in each case remains more or less constant. The kind of compression of unstressed words practised here is both a comprehension and a production problem for students accustomed to syllable-timed rhythm. Such students, if not given sufficient practice will fail to hear the unstressed but nevertheless important words in a sentence, and their speech (with wrong words stressed i. e. "I CAN buy THEM a BOOK") will be difficult if not impossible to understand. Note that the vowels in "can" and "them" in the above sentences are reduced to /ə/.

This principle of stress-timed rhythm must be kept in mind by a teacher at all times, whether teaching conversations or drilling sentence patterns. An awareness of English rhythm can be developed in students if the teacher makes it a point to speak with natural rhythm at all times. A mistake which is easy for any teacher to make is to alter the rhythm of a pattern drill or conversation without being conscious of having changed it.

A teacher can slow down a phrase or sentence without distorting its rhythm and should practice doing this. The sentence "When are you going to the bank?" for example, can be said slowly but the teacher must take care to stress only the words "when, going, bank" and to say the other words more quickly and quietly.

"But how does one know which words to stress in an English sentence"? the foreign student might well ask. There is no invariable rule for this, since on occasion any word in an English sentences might be stressed; but we might say that, in general, the lexically significant words only are given their full sound value. These are:

1. Nouns (and some pronouns, notably interrogatives)
2. Demonstratives (this, that etc.)
3. Adjectives
4. Interrogatives (When, where, etc.)
5. Most adverbs
6. Verbs

Numbers 1, 3 5, 6, above are what we call the "content" words of the language.

The other words in the sentence are what we call either 'structure words', 'function words' or 'form words' and serve to relate the 'content words' to each other according to the grammatical rules of the language. Structure words include prepositions, auxiliary verbs, conjunctions, articles, personal pronouns and possessive adjectives. These words are normally unstressed, many of them having special weak or short forms. The auxiliary verbs "am, is will, would", for example are often reduced to the sounds [m, s, l, and d] respectively. An auxiliary verb is stressed only when

1) it is the last word in a sentence - e. g. "Yes, he is"
2) it is negative - e. g. "He isn't here"

In stress-timed rhythm, which is the rhythm of English, the syllables carrying the stress proceed at a fairly regular pace, the unstressed syllables being compressed between them in varying degrees of density.

The following two sentences illustrate the nature of English rhythm.

1) "Bert's friend John sold two fine paintings last week".

(10 syllables)

2) It would have been better not to have paid for it before you had received it.

(19 syllables)

Although sentence No. 2 has almost twice as many syllables as sentence No. 1, both sentences take approximately the same length of time to say.

A useful technique is the "backward buildup." If students are having difficulty with a sentence, for example, "When are you going to the bank?" the following drill could be done:

T: BANK

S: BANK

T: the BANK

S: the BANK

T: to the BANK

S: to the BANK

T: GOing to the BANK etc.

It is much easier for the teacher to maintain a constant rhythm and intonation if she begins at the end rather than at the beginning of the sentence.

The teacher can show the rhythmic pattern by use of her hand - hand comes down at each stressed syllable. She can also clap out or tap the pattern.

See Introduction to Canadian English- Introduction Page 10. See also the pronunciation practice in each unit of Introduction to Canadian English - Book II

SECTION II INTONATION

Intonation is important in English as it is not only a distinguishing characteristic of a true 'English' accent but can completely change the meaning of an expression.

Linguists generally speak of four levels of pitch used by English speakers. These pitches are, of course, purely relative to each other. They could be numbered either from the lowest one up or the highest one down. For convenience in reference to our practice books we will call No. 1 the lowest pitch and No. 4 the highest. No. 2 would be normal pitch, No. 1 below normal, No. 3 above normal and No. 4 exceptionally high and used for special effect (anger, surprise, etc.).

_____ Pitch Level 4 - exceptionally high.

_____ Pitch Level 3 - above normal

_____ Pitch Level 2 - normal

_____ Pitch Level 1 - below normal

For practical purposes, it is convenient to think of 2 basic intonation pattern in English:

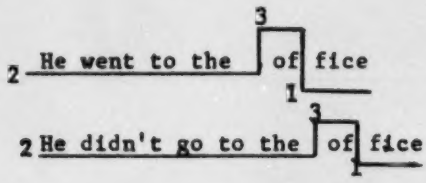
Pattern No. 1

/2 3 1/ — voice begins on level 2, rises to level 3 and then goes down to level 1. The /2 3 1/ pattern carries with it a sense of completion and finality.

This pattern is used for

a) definite remarks - both affirmative and negative

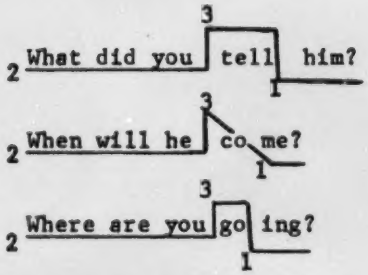
eg.



b) orders

e. g.

c) question word questions e.g.



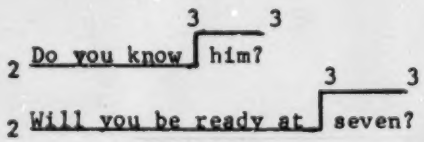
The above lines do not mean that the voice maintains exactly the same pitch throughout the syllables marked. There are always fluctuations but these fluctuations are not significant. Note that the voice rises to level 3 on the syllable with primary stress.

Pattern No. 2

/2 3 3/ — voice begins on pitch level 2, rises to 3 and then continues at that level.

This pattern is used for questions without a question-word (sometimes called "yes" or "no" questions.)

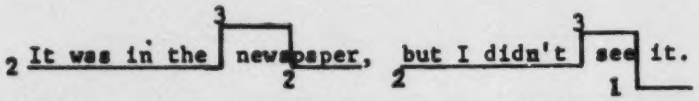
e. g.



The above 2 basic patterns should be drilled regularly from the outset, as intonation patterns often differ markedly from one language to another, and a knowledge of the above 2 patterns is necessary for the foreign speaker who wishes to understand spoken Canadian English and to be easily understood when he speaks.

Below are listed some other intonation patterns which can be practised when students reach the appropriate level:

COMPOUND SENTENCES Pattern /232 ¦ 231/



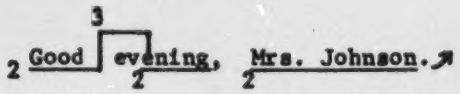
We were in an accident but we weren't hurt.

I lost the ticket and I couldn't find it.

Direct Address

Pattern 232 ¦ 2↗/

The first phrase has the /232/ information; the second phrase is usually on the pitch 2 level with a slight rise at the end.



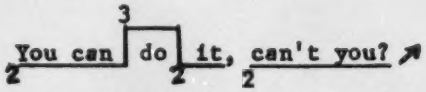
When are you leaving, Bill?

Tag Questions

Two different intonation patterns can be used with sentences with tag questions with slight differences in meaning.

Type 1 Pattern /232 ¦ 2↗/

The tag is spoken with the voice rising at the end. The speaker is not certain of his remark. He is asking the listener's opinion and would not be surprised if he were contradicted.

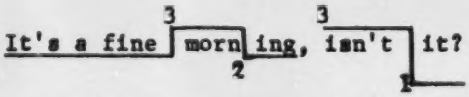
e. g. 

He's coming, isn't he?

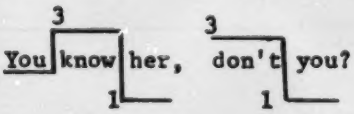
He won't do it, will he?

Type 2 Pattern /231 ¦ 31/

In this case, the voice falls at the end of the tag, and indicates that the statement is true and the tag merely a polite phrase to invite the interest of the other person.

e.g. 

It is also used where the speaker feels reasonably sure that his remark is correct and expects the listener to agree with him.



You'll tell him, won't you?

Listing /2↗¦2↗¦231/

This intonation is used when listing several items.

I bought some socks, shirts and ties.

Practise conversations in Introduction to Canadian English from the standpoint of intonation.

Practise the intonation exercise in Sound Studies pages 30 to 42. Two other useful books for exercises in stress and intonation are:

1. W. Stannard Allen, Living English Speech, Longmans, Green and Company Limited.

2. Drills and Exercises in English Pronunciation

   Stress and Intonation Part 1
   Part 2
   Collier-MacMillan International

SECTION III

Vowel and Consonant Sounds

This section has been placed last because, as was pointed out in the introduction, the teacher's first concern is that the students achieve a natural speech flow, and preoccupation, especially at the beginning, with individual vowel and consonant sounds might inhibit free speech flow and result in stilted, albeit precisely enunciated, utterances.

However, vowel and consonant sounds certainly cannot be overlooked and the question arises as to what degree of mastery we can expect.

Goals

Unless you were training a group of spies to infiltrate Ontario cities and towns, it would be foolish to attempt to eliminate a foreign accent entirely. A disproportionate amount of time would have to be spent on sound drills and even then, with adult students, it is doubtful that the foreign accent could be entirely eliminated.

The story is told of an American woman who went to France determined to completely eliminate her American accent and achieve "perfect" French pronunciation. She worked towards this aim with single-mindedness, excluding from her study other aspects of language such as sentence patterns, vocabulary. In the end, she was no longer taken for an American coping admirably with the French language but, instead, for a rather stupid Frenchwoman.

The story is, of course, an exaggeration but it makes a point well and brings us back to the question of goals. Consider the difference between the sentences "I want to sin this afternoon" and "I want to sing this afternoon". The difference in meaning is considerable and due entirely to the difference between the final sound in each utterance - sounds represented by "n" in the word"sin" and "ng" in the word "sing". These two sounds are significant in English since the replacing of one by the other results in a difference in meaning. Such significant sounds must be taught. The student must acquire the ability to hear the difference between "sin" and "sing" and to produce the right word in the right place.

Phonemes and Allophones (Variants)

Linguists refer to the significant sounds of language as its PHONEMES. They also make use of phonemic alphabets composed of symbols each representing one phoneme and one phoneme only (unlike conventional alphabets in which one letter often stands for a number of sounds (mat, father) and in which one sound is often represented by a number of different letters (for, phone). Symbols in the phonemic alphabet are written between slant lines/ / to distinguish them from letters of the conventional alphabet. The final phoneme in the word "sin" is /n/ and in the word "sing" is /ŋ/.

Since a phoneme is the smallest unit of sound which distinguishes one word from another, we see that in the word "sin" there are two phonemes other than the /n/. They are /s/ and /ɪ/. /s/ is a phoneme because it distinguishes the word "sin" from "fin, tin, thin, gin" etc. and /ɪ/ is a phoneme because it distinguishes the word "sin" from "been, sun, soon" etc.

Above, we mentioned that a student must acquire the ability to hear the difference between "sin" and "sing" and produce the right sound in the right place. You may be wondering what difficulty there could possibly be in distinguishing these two sounds - sounds so clearly distinct to the ears of the native English speaker. In order to demonstrate the nature of the difficulty for the learner of English let us select two other English words containing sounds that we, as native speakers, would have difficulty in distinguishing - the words "pot" and "spot".

Say these two words aloud and decide what difference there is between the "p" in "spot" and the "p" in "pot". The first "p" is aspirated that is, there is a rather heavy puff of air following the opening of the lips. The "p" in "spot", on the other hand, is not aspirated. These two varieties of the phoneme /p/ are called its ALLOPHONES or VARIANTS. Allophones are written between square brackets [] to distinguish them from phonemes and from letters of the conventional alphabet. The phoneme /p/ has three principal allophones, unaspirated [p] aspirated [pʰ] and unreleased [p˺].

Now, most native speakers of English are probably not aware of these allophones because unlike phonemes they do not distinguish one word from another. If you were to aspirate the "p" in the word "spot" your pronunciation might sound unusual but certainly you would not change the meaning of the word.

Let us suppose that you undertook the study of Urdu. You would find that our allophones unaspirated [p], and aspirated [pʰ] are phonemes in this language, and that the replacing of one sound by the other would result in a difference in meaning.

/pəl/	moment	/pʰəl/	fruit
/pulaw/	a rice dish	/pʰulaw/	to inflate

Similarly with /t/ and /k/

/tik/	teak (wood)	/tʰik/	correct
/kay/	ivy	/kʰay/	ate

You discover that what were merely allophones in your native language English are phonemes in your target language Urdu. In learning Urdu you must be conscious of distinctions that went unnoticed in English.

Returning to the problem that certain students of English might have distinguishing /n/ and /ŋ/, we note that in Greek and Italian for example [n] and [ŋ] are allophones of the phoneme /n/. These sounds are not, as they are in English, 2 phonemes. In Italian [ŋ] occurs as the only nasal sound before /k/ or /g/ but no where else. Thus the Italian student is as little conscious of the [n] [ŋ] distinction as the English student is of the [p] [pʰ] distinction. The Italian and Greek student will need practise in contrasting /n/, /ŋ/, and /ŋ k/ as in the words "ban" "bang" and "bank".

Let us look at another instance in which an allophone in one language is a phoneme in another. In English the initial sounds in the words "den" and "then" are the two phonemes /d/ and /ð/ respectively. In Spanish and Portuguese, however, these two sounds are not phonemes; they are allophones of the phoneme /d/. The allophone [ð] appears between vowels and the allophone [d] appears at the beginning of words (initially). Thus the Spanish and Portuguese student would have no difficulty pronouncing the word "den", "dog" etc. but would probably say "lather" instead of "ladder" and "wreathing" instead of "reading". He might also experience difficulty with words beginning with [ð] "then, though" since in his native language [ð] never occurs initially.

In considering then what English phonemes may cause you students difficulty you should ask yourself:

1) does this English phoneme exist in their native language? Greek, for example, does not have the consonant phonemes /h/, /w/, /š/ as in "sheep" etc.

2) does this English phoneme exist in their native language but merely as an allophone (the English Phoneme / ŋ / exists as an allophone of the Greek and Italian /n/.

The Phonemic Alphabet

The phonemic alphabet we shall be using throughout is the one which appears in the Supplementary Material - An Introduction to Canadian English by Carson W. Martin. The symbols are those of the International Phonetic Alphabet (IPA) with some modification.

Consonants

Modified IPA	English Word
b	bat
p	pat
d	door
t	tore
g	good
k	could, kind
v	van
f	fan
z	zip
s	sip

Modified IPA	English Word
m	mice
n	nice
l	lip
r	rip
h	house
y	yes
w	window

Modified IPA	IPA	English Word
š	ʃ	ship
ž	ʒ	pleasure
tš (č)	tʃ	chat, catch
dž (ǰ)	dʒ	judge
ð		this
θ		thin
ŋ		singing

Vowels and Diphthongs

Modified IPA	English Word
ə	but, about
i	beet, beat, be
I	bit
ɛ	bet
æ	bat
ɑ (a)	* cot, caught
o	bore, for
ʊ	good, could

Modified IPA	English Word
u	food, soon
ey (ɛy)	bait, bate
ay (ɑy)	bide, side
oy	boy
aw (ɑw)	bound
ow	boat, go, slow

* Although for Ontario speakers these two words are homonyms, certain varieties of American English and British English employ different vowel sounds in the two words. The vowel sound used in the work "caught" is represented by the symbol /ɔ/ and is produced further back in the mouth than /a/.

Phonemic-Phonetic Alphabets

A learner of English would not know from looking at this phonemic transcription /p a t/ ("pot") which variant (allophone) of the /p/ to use. This shows that a phonemic alphabet is only an approximate representation - one which ignores the allophones of each phoneme. When one wishes to be explicit a phonetic alphabet - which shows allophonic variations - must be used. A native English speaker would, of course, automatically produce the correct allophones even when reading from a phonemic transcription.

Pronunciation Drills

What

When preparing pronunciation drills and generally when correcting a student's pronunciation, the teacher should bear in mind that not all errors are of equal seriousness. Errors in the pronunciation of English vowels and consonants can be divided into two groups - the critical and the non-critical.

Critical errors are those that are likely to cause misunderstanding. An example of a critical error is the interchange of /l/ and /r/ made by Chinese and Japanese students.

Non-critical errors are those which mark the speaker as a non-native but would probably not lead to misunderstanding.

When

The teacher should be conscious at all times of the students pronunciation and especially of the broader features of the spoken language - rhythm, intonation. Thus if a student makes a reply or statement which is correct grammatically but made with poor speech flow, the teacher might say "That's correct but say it this way", indicating, through her pronunciation and perhaps her use of hand movements, what is desired.

It is a good idea however to set aside about 2-5 minute periods per class specifically for pronunciation drills. These periods provide not only the very necessary pronunciation practice, but also a pleasant change from other language activities. It is pleasant, of course, only if the classroom atmosphere is relaxed and congenial. Such an atmosphere is especially important during pronunciation drills since some students, more particularly adult students, often feel self-conscious when attempting to produce what are to them foreign and peculiar sounds.

Remember too that some students cannot take as much correction as others, but even with those who are able to accept a great deal, it is bad to overdo corrections at any one time. This is why we suggest periods of 5 minutes each. You can always come back to Monday's drill later on in the week, and indeed, you should, since pronunciation problems are rarely corrected in one session.

How

As mentioned before, learning the pronunciation of a foreign language is a two-fold process. The student must acquire the ability to

1) recognize significant vowel and consonant sounds.

2) produce these sounds.

Let us assume that you have a German student who is pronouncing the word "man" as "men". The vowel sound in the word "man" /æ/ is non-existent in German and the student is substituting the closest vowel sound he has in his own language, the vowel /ɛ/.

A simple drill for practicing the recognition of the difference between /æ/ and /ɛ/ can be made by arranging minimal pairs of words on the blackboard thus:

1	2
/ɛ/	/æ/
men	man
ten	tan
set	sat

As you can see a minimal pair is two words that sound alike except for one phonemic difference. When preparing such minimal pair drills try to avoid words containing problem consonants that have not yet been mastered, for example /θ, ð, r, w/.

Recognition

1) Teacher pronounces the words in pairs to make the students aware of the contrast. Care must be taken to pronounce such contrasts with the same intonation on both words so that the sole difference between the words will be the sound under study.

2) When the teacher is certain that the students are beginning to hear the distinctions, he pronounces a word from these lists and students identify the sound by calling out the column number in which that word appears - 1 or 2. Students might also be asked to raise 1 or 2 fingers as well as to respond orally since this way the teacher can be sure that everyone is participating and that no one is merely faking a reply.

3) Teacher may use minimal pair sentences as well.

1. The men came yesterday.

2. The man came yesterday.

Production

1. Teacher reads each word in Column I and students repeat in chorus after each word*

2. Teacher does same with Column 2.

3. Teacher reads each minimal pair and students repeat.

4. Teacher goes around the room, says one minimal pair - men, man - and has individual students repeat it.

* Teacher should develop a set of hand signals so that students know when to listen, when to repeat - hand up, palm toward students - listen; encircling gesture of arm - repeat.

Further practice

1. One student says one word - other students identify it.

2. Teacher says one member of the pair. A student gives the contrasting member.

3. Use words from both columns in short utterances. Students must, of course, finally, be able to distinguish and pronounce words in sentences.

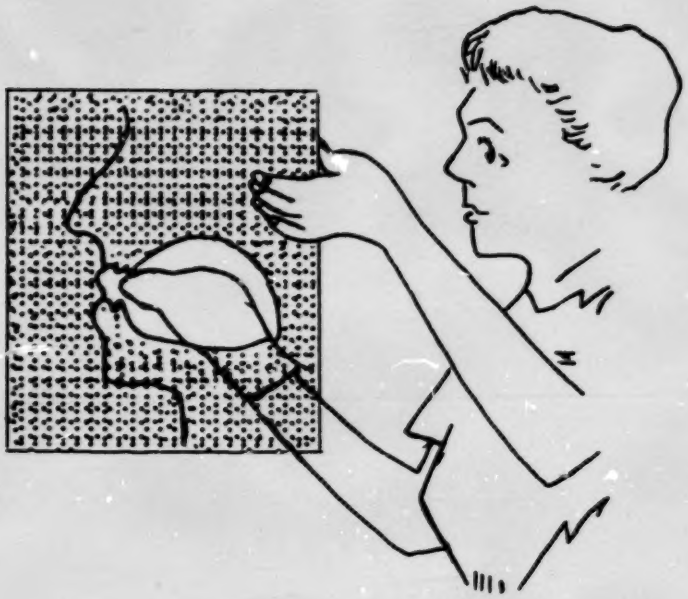
The entire minimal pair drill above cannot often be accomplished in one period. It may be that you will have to spend one period on the recognition half alone.

Remember too that you may have to reteach the same sound and remind the students of the correct pronunciation many times more.

Aids to accurate production of sounds

Some students, mainly children, are able to learn to produce specific sound segments simply by imitating the teacher. For others, largely adult students, imitation is not enough. The teacher must be able to show the student how the sound is produced. This can be done through the use of simple diagrams. Such diagrams will be found in the following pages which deal with each vowel and consonant phoneme in turn.

A useful device suggested by Dr. Finocchiaro in her book English as a Second Language - from theory to practice, is a large profile sketched on a cardboard indicating the lips, teeth, tooth ridge (be sure to make this large enough to be seen clearly) palate and bottom of mouth cavity. Make a red mitten for your right hand. As you teach a sound, use your gloved hand in the open mouth cavity to simulate the tongue.

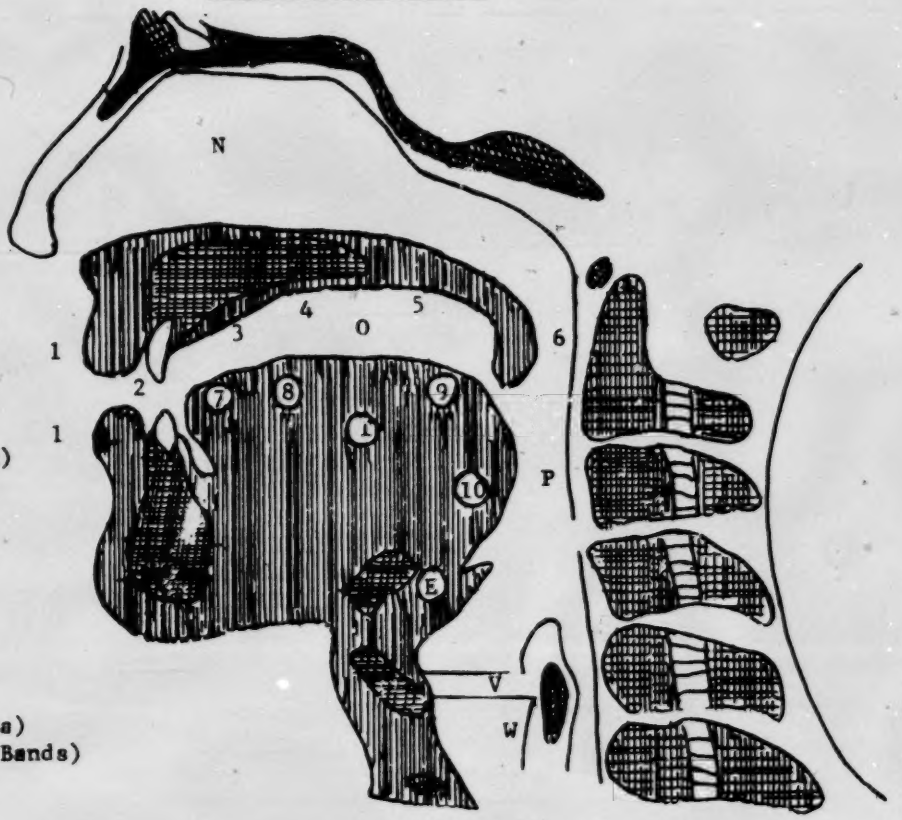


THE PRODUCTION OF VOWELS AND CONSONANTS

THE ORGANS OF SPEECH

1 - Lips
2 - Teeth
3 - Gum Ridge (Alveolar Ridge)
4 - Hard Palate
5 - Soft Palate (Velum)
6 - Uvula
7 - Tongue Tip (Apex)
8 - Front and Blade
9 - Back (Dorsum)
10 - Root

N - Nasal Cavity
O - Oral Cavity
P - Pharynx
E - Epiglottis
W - Windpipe (Trachea)
V - Vocal Cords (or Bands)
T - Tongue



Consonants

In classifying a consonant it is customary to mention three features.

1) activity, if any, of the vocal bands (cords)

2) the position of articulation

3) the manner of articulation

Let us examine each of these features in turn.

1) Vocal bands

The vocal bands are a pair of bundles of muscle and cartilage attached to the walls of the larynx which is enclosed in the "Adam's apple". These vocal bands, like lips, can open and close. During normal breathing and the production of certain speech sounds they are open. Speech sounds produced with the bands in the open position are called VOICELESS.

The vocal bands can be brought so close together that the air passing through them causes them to vibrate. Speech sounds made while the vocal bands are vibrating are said to be VOICED.

To feel this vibration put your thumb and forefinger on your Adam's apple and produce alternatively vvv-fff-vvv-fff.

To hear the buzzing of the voiced sounds put a finger in each ear and again produce alternatively vvv-fff-vvv-fff.

The /v/ is the voiced consonant and the /f/ is its voiceless equivalent. Whenever we describe a consonant we indicate whether it is voiced or voiceless.

Thus

	f	θ	s	š	t	p	k	tš	are described as VOICELESS
and	v	ð	z	ž	d	b	g	dž	are described as VOICED

The consonants m, n, ŋ, l, and the semivowels (sometimes referred to as semiconsonants) w, y, r are voiced. h is usually voiceless.

Since it is difficult to distinguish between voiced and voiceless sounds when one whispers, don't whisper when doing pronunciation drills.

Many students - German, Greek, Russian, etc. will have difficulty contrasting f/v, θ/ð, s/z, t/d, p/b, k/g, tš/dž, at the <u>end</u> of a word since in their native language only the voiceless consonant occurs in this position.

2) The position of articulation

Articulators (movable organs) and points of articulation

Principal articulators

Common name	Technical name	Adjective	Compounding from of adjective
lower lip		labial	labio-
tip of tongue	apex	apical	apico-
blade of tongue		laminal	lamino-
front of tongue		frontal	fronto-
back of tongue	dorsum	dorsal	dorso-

The above organs articulate against the following points of articulation.

Common Name	Technical Name	Adjective
upper lip		labial
upper teeth		dental
gum ridge	alveolar ridge	alveolar
hard palate	palate	palatal
soft palate	velum	velar

The position of articulation for the phoneme /t/ for example would be apico-alveolar (the tip of the tongue in contact with the alveolar ridge); for the phoneme /k/ dorso-velar (the back of the tongue in contact with the velum).

3) The Manner of Articulation - (types of Sounds)

Stops

If an articulator is brought so firmly against a point of articulation that the air stream is completely interrupted the resultant sound is called a STOP.

The English stops are /p, b, t, d, k, g,/
Notice that these sounds cannot be prolonged or continued.

Fricatives (sometimes referred to as Spirants)

If the articulator is brought so close to a point of articulation that the air passing between them is made turbulent and produces frictional noise, the resultant sound is called a FRICATIVE.
English fricatives are / θ, ð, f, v/

Sibilants

This is a special class of fricatives. These S-like sounds are made by channeling the blade and sometimes the tip of the tongue so as to project a jet of air against some point of articulation.
English sibilants are /s,z,š,ž,/

Sonorants

All sounds other than stops or fricatives are referred to as sonorants. Sonorants are subdivided into four groups which differ from one another primarily in the shape of the oral cavity (mouth). The following are the four groups:

1. Vowels
2. Semivowels (or Semiconsonants) /r, w, y/
3. Laterals /l/
4. Nasals /m, n, ŋ/

Air may pass out through either the nose or the mouth. When the velum (soft palate) is drawn up, passage to the nose is blocked off and the air must pass out through the mouth. When the velum is dropped the air may escape through the nose and the resultant sound is called a NASAL. Compare the diagrams showing the formation of /b/ page 20 and its nasal counterpart /m/ page 27.

Points of Articulation

Manner of articulation	Lips (labial)	Lips-teeth (Labio-dental)	Between teeth (Interdental)	Gum ridge (Alveolar)	Hard palate (Palatal)	Soft palate (Velar)	Glottis (glottal)
Stops	p b			t d		k g	
Fricatives		f v	θ ð	s z	š ž		
Affricates					tš dž	ŋ	
Nasals	m			n			
Laterals				l			

1. See detailed description of English Consonants for the part of the tongue involved in articulating above consonants.

2. Characters in left half of the box are voiceless. Those in the right half are voiced.

3. Always use the above forms without variation. Use printed form not script. Avoid using capitals to distinguish the beginning of sentences and proper names.

Detailed discussion of English consonants

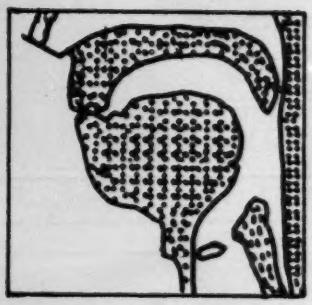
Each consonant will be discussed in regards to

1. its formation - Since in the formation of pairs like /p,b/ and /t,d/ the only differences lies in the activity or lack of activity of the vocal bands one sketch can be used to show both members of the pair. You can indicate that a sound is voiced by drawing a jagged line or a red line in the area of the vocal bands.

2. problems different language groups have with this consonant and suggested aids to production including minimal pair pronunciation drills.

Stops

/p/ voiceless bilabial stop.



Lip position /p/

/p/ is aspirated in <u>initial</u> positions and at the beginning of stressed syllables e. g. "piece""apiece". In most European languages, with the exception of the Germanic groups the voiceless stops p,t,k, are never aspirated. Sometimes, their lack of aspiration makes the students' pronunciation of a word like 'pen' sound to the Canadian like "ben". If you find this to be the case, demonstrate this aspiration by holding a lighter, a feather or a thin piece of paper in front of your mouth and pronounce "pen","poor" "pill" etc. In other positions /p/ is not aspirated "ape, map, happy, keeper". In preparing drills on any consonant it is useful to show the consonants in all three positions - initial, medial and final.

/b/ voiced bilabial stop.

Mandarin and Cantonese don't have the voiced stops /b,d,g,/. In German, Russian, Greek, etc. stops and fricatives are always <u>unvoiced</u> at the end of a word and thus these students find it very difficult to pronounce voiced stops and fricatives at the end of a word. Hence they will pronounce "cab" like "cap"; "bed" like "bet", "bug" like "buck" "leave" like "leaf"; "his" like "hiss" etc.

The following minimal pair contrasts /p/ and /b/ in final position.

1	2
/k[illegible]p/	/k[illegible]b/
/rowp/ rope	/rowb/ robe
/k[illegible]p/ cup	/k[illegible]b/ cub

I see a rope. I see a robe.

Your cap is here. Your cab is here.

Put the rope in the cab.

NOTE:

1. Make the vowel sound in the second column of words (voiced) of longer duration than the vowel sound in the first column (voiceless).

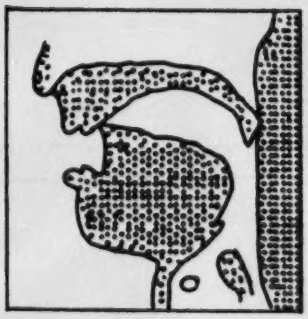
2. Voiceless sounds are more strongly articulated than voiced sounds.

3. One may approach the problem of devoicing a final voiced consonant from the medial position - have the student pronounce a word like "robber" and then cut off the final syllable.

Spanish students have as one variant of their /b/ a bilabial fricative which is heard by English speakers either as /v/ or /w/. This variant appears in almost every position except the initial and final. Drill with /b/ in medial position - "rebel, sobbing, lobby" etc.

Greeks tend to introduce a /m/ before medial and final /b/. Thus they may pronounce "bubble" as "bumble" and "sob" as "somb".

/t/ voiceless alveolar stop.



Tongue position for [t]

The tip of the tongue is placed against the gum ridge (alveolar ridge) for the English/t/. In many European languages it is placed against the upper teeth. As with /p,k/ English /t/ is aspirated in the initial position and at the beginning of stressed syllables e. g. "turn", "return". Lack of aspiration might make the word "ten" sound like "den" to a Canadian.

Variant of /t/ - Pronounce the two words "tea" and "Betty". Are the two "t" 's the same? For many speakers the "t" in "Betty" differs from the "t" in "tea", and for these speakers the "t" sound in "Betty" is a flap. i.e. a sound in which the tip of the tongue very briefly makes contact with the alveolar ridge. In some language e.g. Spanish, the [r] is a flap and students who speak these languages might hear our flap [ɾ] as their [r] . Such a student might have difficulty distinguishing the questions.

"What is it"? flap [t]

from

"Where is it"?

/d/ voiced alveolar stop.

Remember that German, Russian, Greeks etc. unvoice the final /d/. Use the same type of minimal pair drill as shown for /p,b/ and include, if already studied, the stem and past tense of the following irregular verbs.

send	sent
lend	lent
spend	spent
bend	bent
build	built

Greeks tend to introduce /n/ before medial and final /d/. They often say "hand" for "had" and "rend" for "red". Showing them that air escapes through the nose and mouth for "hand" but only through the mouth for "had", often helps correct this error.

/t,d/ inflections

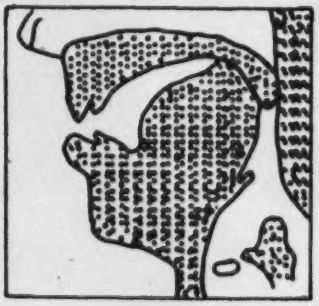
The addition of the phoneme /t/ forms the past tense of regular verbs ending in all voiceless consonants except /t/.

/wak/	/wakt/
walk	walked
/hap/	/hapt/
hop	hopped
/waš/	/waštt/
wash	washed
/kIs/	/kIst/
kiss	kissed
/kaf/	/kaft/
cough	coughed

The addition of the phoneme /d/ forms the past tense of regular verbs ending in all voiced consonants except /d/.

/klowz/	/klowzd/
close	closed

Because of the fact that the past tense inflection is spelled "ed" regardless of its pronunciation, many students will pronounce "walked" as /wakɛd/ instead of /wakt/ etc. Another reason for this mispronunciation is the fact that combinations of consonants (consonant clusters) such as /kt,pt,nd/, are very difficult for many students. They have difficulty pronouncing two adjacent consonants without interposing a vowel sound. Show the student that the first consonant is sustained until the tongue is in position to articulate the second. In those cases where the first consonant is a stop /p,t,k,/ etc. and obviously cannot be sustained, show how the second consonant is pronounced in the moment of release of the stop.



/k/ voiceless velar stop

The back part of the tongue (dorsum) is pushed up against the soft palate (velum). Like /t/ this consonant is usually aspirated when initial, unaspirated after initial /s/ and in final position may be aspirated, unaspirated or unreleased.

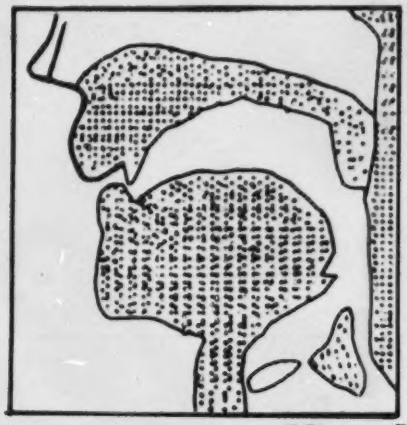
/g/ voiced velar stop

/g/ like /b,d,z,v/ is devoiced by Greeks, Germans and Russians when it appears in a final position. These students may have difficulty producing words like "bag, dog" etc. and contrasting them with "back, dock" etc. Remember when doing minimal pair drills.

(1)	(2)
back	bag
dock	dog
rack	rag

to lengthen the vowel sound in column 2.

Greeks tend to introduce the sound /ŋ/ (final sound in word)"sing" before /g/ in medial and final positions. Thus they may pronounce "bag, log" as /bæŋg/ /lɑŋg/ or /bæŋk/, /lɑŋk/.



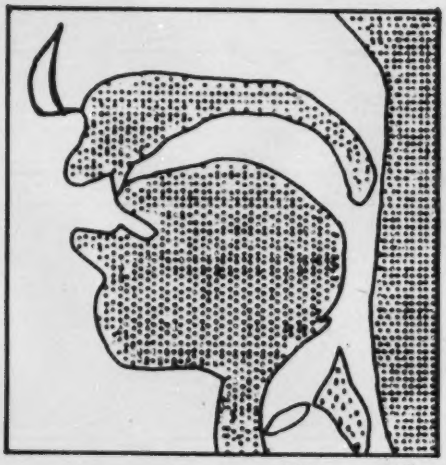
Tongue position for [f] and [v]

Fricatives

/f/ voiceless labio-dental fricative

In some languages this sound is bilabial (like /p/) rather than labio-dental. The lips are almost closed. Although the resulting sound closely resembles /f/ when normally formed, it is clumsy in combination and its release tends to be explosive rather than continuous (non-critical error.)

/v/ voiced labio-dental fricative. Spanish students have a tendency to pronounce /v/ with lips completely closed so that the sound is confused with the English /b/. Have students practise saying words containing /v/ and then contrast with /b/. Remember, too, that final /v/ will be pronounced as /f/ by Germans, Greeks Russians. /v/ does not exist in Chinese.



Tongue position for [θ] and [ð]

/ θ / voiceless interdental fricative

The tip of the tongue is brought close to the edge of the upper front teeth so that breath passing through may be heard. This sound is new to all students except the Greek, Arabic, Icelandic, and Castilian Spanish. Different language groups use different substitutions for the / θ / sound. The Japanese and Spanish use /s/ "sank you" for "thank you". Others use /t/ or /f/. Thus the minimal pairs you select will depend on the native language of your students.

/t/	/θ/	/s/	/ θ /	/f/	/ θ /
/taym/ time	/θaym/ thyme	/sɪn/ sin	/θɪn/ thin	/fɪn/ fin	/θɪn/ thin
/tɪn/ tin	/θɪn/ thin	/sæŋk/ sank	/θæŋk/ thank		
/bæt/ bat	/bæθ/ bath	/bæs/ bass	/bæθ/ bath		

/ ð / voiced interdental fricative.

Students may substitute either /d,v,z/ for / ð /. Students might learn this sound after learning / θ /. It is merely a question of adding voice to / θ /to get / ð /.

One of the two possible positions for [s] [z]

/s/ voiceless alveolar sibilant (class of fricatives)

The tongue is lifted so that the sides of the tongue press against the sides of the upper teeth leaving a slit at the apex. The air is passed at high pressure over the slit and directed at the upper front teeth. Variation - some speakers put the tip against the lower front teeth. Now the blade and front rather than the tip and front are involved in making the air channel.

/z/ voiced alveolar sibilant.

The following is a drill for advanced students contrasting final /s/ and /z/.

/s/ noun	/z/ verb
device	devise
advice	advise
excuse	excuse
house	house
use	use

Rather than exaggerate the final /z/ lengthen the preceding vowel, and articulate the /z/ more gently than the /s/.

/s/ in consonant clusters

Italians and Greeks tend to pronounce /s/ as /z/ before voiced consonants. Thus "smoke, sleep, snow" may be pronounced as "zmoke, zleep znow". To overcome this you might begin by having the student prolong the /s/ and then add the rest of the word ssssss-moke.

Spanish students tend to add a vowel before such clusters. "School" would be pronounced as "eschool".

/s/ and /z/ are very frequent sounds in English since they serve many grammatical functions.

The -s inflections

1. 3rd person present habitual "He speaks"
2. plural of most nouns
3. possession

Pronunciation of the -s inflections

1. /ɪz/ if preceding sound is a sibilant or affricate

/s, z, š, ž, tš, dž/

	/ɪz/
dress	dresses
buzz	buzzes
wash	washes
watch	watches

2. /s/ if the preceding sound is a voiceless non-sibilant or non-affricate /p, t, k, f/.

	/s/
hop	hops
sit	sits
lock	locks
cough	coughs

3. /z/ if preceding sound is none of the above.

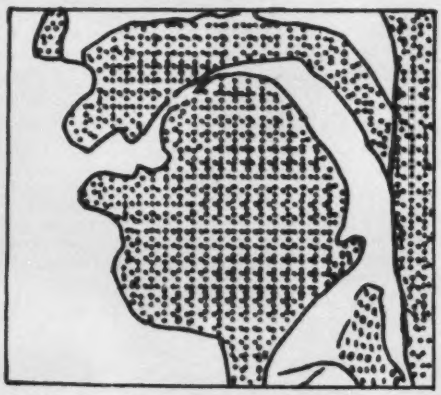
	/z/
open	opens
hum	hums
run	runs

etc.

The 's contraction

/z/ is the contraction for "is" and "has"

/š/ voiceless palatal sibilant (class of fricatives)



Lip and tongue position for [š] [ž]

Somewhat like /s/ but instead of the apex it is the blade and front of the tongue that are used to direct a somewhat wider stream of air against the alveolar ridge rather than the teeth. Greeks, Chinese etc. tend to substitute /s/ for /š/, since the latter phoneme does not exist in their language. In helping the student learn to produce /š/ there is no point in mentioning that this sound is the one used to obtain silence since the Greeks, for example, use "sst" not "sh" for that purpose. However this sound may be taught to Greeks by having students pronounce the Greek transliteration of the English word "shop" - σιόπ Their pronunciation of the first two letters will approximate the English /š/. Once this sound has been practised in initial position extend the drill to cover /š/ in medial and final positions.

/ž/ voiced palatal sibilant

This sound has limited distribution in English. Initially it is totally absent except in French pronunciation of some French loan words and proper names, "Jean, Jacques". Medially it is fairly frequent "measure, pleasure". Finally it appears in French loan words "rouge, prestige".

/h/ voiceless glottal fricative

Although classed as a fricative consonant /h/ has really no point of articulation. During the pronunciation of /h/ the tongue and lips are in the position for the pronunciation of the vowel which follows /h/. For example, for "he" /hi/ the tongue is in a high front position and the lips are unrounded; for "who" /hu/ the tongue is in a high back position and the lips are rounded. /h/ is sometimes produced with a very slight fricative sound though very often it is not. Spaniards and Greeks need to overcome their tendency to produce /h/ with a strong fricative sound at the soft palate (non-critical error.) Greeks need practice contrasting "he" and "she" since their pronunciation of the 'h' in "he" (h before a front vowel) resembles our /š/. Italian, French, Portuguese students tend to omit the /h/ and need practice saying words like "hand, hear" and contrasting them with "and, ear". It is helpful to hold a lighter, a feather or a thin piece of paper in front of your mouth to show that /h/ is produced by aspiration before a vowel. These same students often insert a /h/ where it is not required, pronouncing "ear" as "hear". This latter problem may be due to the fact that English speakers often pronounce words that begin with a vowel with an initial glottal stop [ʔ] "eat" would be pronounced [ʔit] . The student may exaggerate this glottal stop and pronounce it as /h/.

Affricate

/tš/ voiceless palatal affricate or alveolar affricate

This sound is formed by bringing the apex (tip) of the tongue to the alveolar ridge somewhat back of the usual position for /t/ and immediately bringing it away somewhat more slowly than in the release of /t/, so that a distinct but brief fricative sound is heard. This sound is non-existant in a number of languages - Greek, French, etc. To help students form this sound, have them either

1) pronounce the /t/ and /š/ in rapid succession. (Greeks will first have to learn /š/)

2) put the tongue in same position as for /š/ but have the tongue touch the alveolar ridge during the first part of the sound. Students often substitute /š/ for /tš/. Minimal pair drill:

/šip/	/tšip/
sheep	cheap
/šap/	/tšap/
shop	chop
/waš/	/watš/
wash	watch
/wašiŋ/	/watšiŋ/
washing	watching

Minimal pair sentences

He hurt his shin. He hurt his chin.

Wash the baby. Watch the baby.

*Sentences containing both sounds

He bought a cheap watch in that shop.

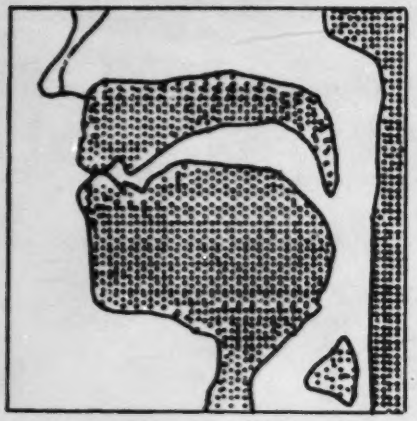
He's teaching English to French and Polish children.

*This type of sentence should be drilled only after students have had a lot of practice with minimal pairs - words and sentences.

/dž/ voiced palatal affricate

Germans tend to devoice this sound, pronouncing "gin" and "joke" and "chin" and "choke".

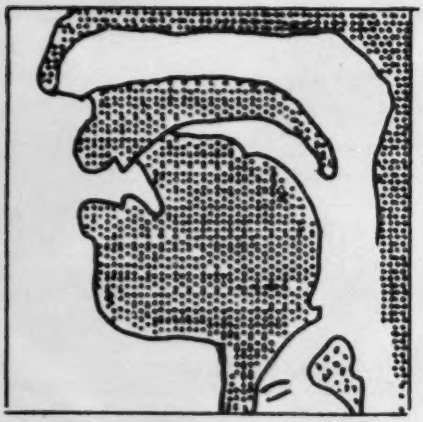
NASALS



Lip position for [m]

/m/ voiced bilabial nasal

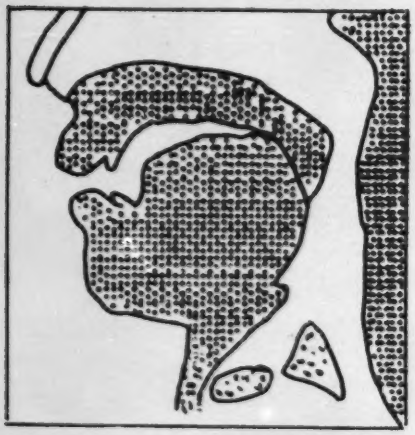
Spanish speakers should be cautioned to close their lips completely especially at the end of words.



Tongue position for [n]

/n/ voiced alveolar nasal

The tip of the tongue is placed against the gum ridge. /n/ is articulated in the same manner as /d/ except that the air escapes through the nose and not the mouth.



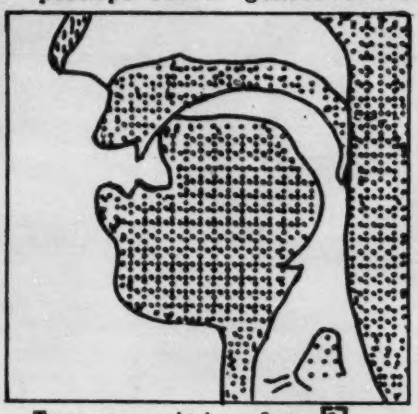
Tongue position for [ŋ]

/ŋ/ voiced velar nasal

Articulated in the same manner as /g/ except that air escapes through nose not mouth. This sound never appears initially in English. As mentioned before, this sound, in many languages, is not a phoneme but that allophone of the phoneme /n/ which appears before /k/ and /g/. Thus speakers of these languages will have difficulty pronouncing /ŋ/ without adding a /g/ or /k/. Thus "sing" /sɪŋ/ might be pronounced /sɪŋg/ or /sɪŋk/. Or the student may simply substitute /n/ for /ŋ/ thus pronouncing "sing" as "sin". The following drill should help the students hear the distinction.

/sɪn/ sin	/sɪŋ/ sing	/sɪŋk/ sink
/klæn/ klan	/klæŋ/ klang	/klæŋk/ klank
/bæn/ ban	/bæŋ/ bang	/bæŋk/ bank

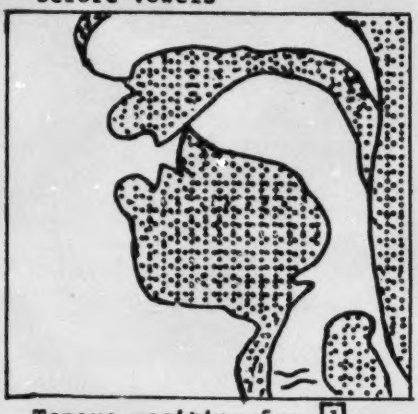
Often after students are able to produce words such as "sing, swing", etc. without adding a final /g/ or /k/ they still have difficulty with words in which the /ŋ/ appears medially, such as "singer", "swinger". They must get the tongue in position for the vowel following the /ŋ/ before allowing the velum to be raised, otherwise once the velum is raised with the tongue still in the position for /ŋ/ air will escape through the mouth and produce the /g/ sound. This error, though it marks the speaker as non-native or perhaps second generation Canadian, is not a critical one.



Tongue position for [l] before vowels

/l/ voiced alveolar lateral.

The tip of the tongue is held against the gum ridge and the air stream comes out of the mouth over the sides of the tongue. The phoneme /l/ has two major allophones. The "clear" [l] which appears in word - and syllable - initial position and after voiced consonants - "loud, aloud, glance".



Tongue position for [l] after vowels.

The "dark" [l] which appears intervocalically "spelling"; in word - and syllable - final position - "full" "fulsome"; and between a vowel and a following consonant "guilt".

Many students will use only the "clear" [l] at all times. This error is non-critical. Some students, however, - the Japanese for example, have no laterals in their own language hence no /l/ phoneme.

Semivowels /w y,r/ Semivowels differ from vowels in that

1. they are found in consonantal positions
2. they are of very brief duration.

/w/ voiced velar semivowel.

It is formed by rounding the lips slightly while raising the dorsum (back) of the tongue toward the velum and then moving it rapidly into position for the next vowel. The amount of rounding of the lips depends on the following vowel. It is greatest before rounded vowels like /u/ as in "woo" and least before unrounded vowels like /æ/ as in "wack". /w/ does not exist as a phoneme in a number of languages. However students can use the vowel /u/ in its place. The relationship between /u/ and /w/ is shown in the following exercise which can be used to help students who are having difficulty producing /w/

Do DOing doING WING

See page 36 for relationship between /u/ and /w/.

/y/ Sometimes phoneticians use the symbol /j/ instead of /y/

Voiced palatal semivowel

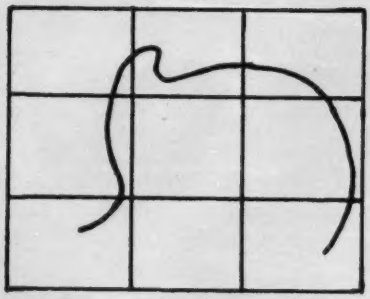
The front (not tip) of the tongue is brought close to the palate and back part of the alveolar ridge, with the tip pointing toward the upper teeth or held against the lower front teeth. The tongue is then moved rapidly down into the position for the following vowel. The degree of separation between tongue and palate is influenced by the next vowel; the higher the vowel the closer and tenser the position of the tongue at the beginning of /y/.

Like /w/, /y/ is related to a vowel - in this case /i̯/. See page 34. Drill for production of /y/

/ i / /i u / /yu/

/i̯ / /i̯ɛ t/ /yɛt/

/r/ voiced apico-alveolar retroflex semi-vowel



Tongue position for [r]

The "American r" is formed in various ways in different dialects and among different individuals. In one articulation the sides of the tongue are against the back teeth as for /n/. The blade and tip are turned upward and withdrawn a bit toward the back of the mouth. The tip points to the extreme back of the alveolar ridge where it joins the palate. The separation between the tongue tip and the alveolar ridge is about 1/8 to ¼ inch. From this position the apex flicks rapidly forward and down into the position for the following vowel. Since this retroflex /r/ is North American only, students will produce different varieties of European r's.

Point out to students who make a

Flap r (Spanish, Greek)	that	the tongue does not touch the top of the mouth (Finocchiaro's diagram is useful for showing this)
Trilled r (Italian)	that	the tongue is not tapped against the alveolar ridge or teeth
Velar r (German, French)	that	the uvula doesn't vibrate

Syllabic or Vocalic r

The second sound in the words "fur, bird, heard" is sometimes written as / ɚ r/ although it is not really pronounced as a sequence of /ɚ/ plus consonant /r/ but simply as a vocalic r. The vocalic r is also written as / r̩ / or /ɝ /. It is a sound which most students will have difficulty making.

Have them pronounce the sound /ə/, then raise the tip of the tongue back taking care not to touch the top of the mouth.

/ə/ /ər/ /ə/ /ər/

/kər, lər, hər, gərl, wərk/

In sentences - The girl's learning German.

/ər / can then be contrasted with combinations such as /ɛr / - "her, hair"

and / ɑr / "heard, hard"

etc.

Vowels before r

/ir /	/ɛr /	/or /	/ɑr /	/ər /
ear	air	oar	are	err
peer	pair	pour	par	pur
mere	mare	more	mar	myr
sear	Sarah	sore	Saar	sir
tear (n.)	tear (v)	tore	tar	tur

For valuable hints and drills for the production of /r/ see Supplementary Material - An Introduction to Canadian English.

Unit 2 Page 27 and Unit 3 Page 44.

Consonant clusters

Consonant clusters are combinations of two or more adjacent consonant sounds - "ph" in "phone" is not a cluster; "fl" in "flew" is. English has a great number of consonant clusters - 151 post-vocalic ones alone. These final clusters are especially difficult for foreign students.

Ease or difficulty in discriminating and producing sounds depends not only on the sounds per se but on their positions in a word. Italians and Greeks, for example, can produce both /s/ and /m/ yet the consonant cluster "sm" presents difficulties since this cluster does not occur in either Greek or Italian. In these two languages /m/ is always preceded by /z/. Thus these students tend to say "zmoke" for "smoke". Similarly "sleep, snow" are often pronounced "zleep", "znow".

Students may learn to produce a new consonant sound but have difficulty pronouncing clusters containing this sound. Thus a Chinese student who has mastered the /r/ in initial, medial and final positions will still need drill in pronouncing /r/ as the second or third consonant in a cluster.

The following would be a suitable drill for such students:

Consonant clusters with /r/ before vowels - Practice the following combinations with /r/ before vowels. Be sure not to touch the tip of the tongue to the top of your mouth. Round the lips for the /r/ before pronouncing the consonant preceding /r/ except /p/ and /b/.

*/pr ə/ /tr ə/ /kr ə/ /br ə/ /gr ə/ /str ə/

/prayz/ /tre/ /krim/

/progrɛm/ /tray/ /kraym/

/prɛzɪdɛnt/ /tri/ /ɪnkris/

*If necessary pronounce this first with an extra vowel between the 2 consonants /p ə r ə/ /t ə r ə/ etc.

Contrast the clusters /pr, kr/ etc. with /pl, kl/

/pley/ /prey/
play pray

Problems of spelling pronunciation

Problems of spelling pronunciation may be traceable to two possible causes.

1) One possibility is that the same symbol might represent 2 different sounds in the 2 languages.
A Spanish student might pronounce "Jim" as /hɪm/ since Spanish "j" represents the English phoneme /h/ not /dʒ/

Greek capital letter	English letter representing this sound
B	v as in "vest"
H	i as in "machine"
P	r as in British pronunciation of "very"
X	none
Y	i as in machine

The following Hungarian letters represent different sounds in English and Hungarian.

Hungarian	English letters representing this sound
c	ts (hits)
j	y as in "yell"
s	sh as in "shell"
e	-close to English "a" in "hat"

2) One English letter often represents different sounds in different words. Thus a student generalizing from the words "hat, house, have, hand" might pronounce "honour, hour" etc. with an initial /h/. This is why it is useful to use phonemic transcriptions for pronunciation drills. Students need not learn to write in the phonemic alphabet but can quite quickly learn to read it.

Vowels

Vowels are unobstructed sounds - that is, the air current flows from the lungs to the lips and beyond without obstruction.

In classifying a consonant we mention three features:

1. activity, if any, of the vocal band; 2. the position of articulation; and 3. the manner of articulation.

In classifying a vowel we consider five different features:

1. jaw height - degree of closeness of the lower jaw to the upper jaw.
2. tongue advancement - location in the mouth of the highest part of the tongue.
3. lip position - amount of rounding or spreading of the lip.
4. tension - the degree of general tension of the whole vocal tract.
5. length - the actual duration of thesound in time.

1. Jaw height

Pronounce the following six words and observe the position of your jaw - "beet, bit, bait, bet, bat, bought". The vowels in the first two words would be described as high; the next two as mid; and the last two as low.

2. Tongue advancement

Pronounce the following words "beet, boot". Observe in which case the tongue is further front and in which case further back in the mouth. The vowel in "beet" is called a front vowel. The vowel in "boot" a back vowel. The vowel sound in the word "but" is a central vowel. Note that the term "central" refers to tongue advancement and that the term "mid" refers to jaw height.

Generally, in classifying an English vowel, one need only refer to these two features - jaw height and tongue advancement. Thus /i/ (beet) would be classified as a high front vowel and /u/ (boot) would be classified as a high back vowel. How would you classify the following /ə, æ, o, e /.

Although it is not necessary to refer to lip position, tension and length in classification, a knowledge of these features is very useful for the correction of pronunciation problems.

3. Lip position

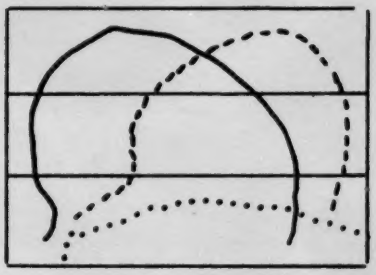
In most dialects of North American English all back vowels /uʊo/ are round and all front and central vowels are unround.

4. Tension - Pronounce the two pairs "beet, bit" and "pool, pull".

You may feel a certain degree of relaxation of the tongue and perhaps of the other parts of the mouth in saying the second member of each pair. It is helpful when teaching these pairs to draw to the attention of your students this difference in degree of tension. You might make a fist to demonstrate the tension in "beet" and "pool" and relax your hand to demonstrate the laxness in "bit" and "pull".

5. Length - duration of a vowel sound is not a distinguishing feature of vowels in English. Merely lengthening the vowel sound in any word will not change the meaning of that word. However, you will remember from our study of voiced and voiceless consonants that the vowel preceding a voiced consonant is longer than the vowel preceding a voiceless one. Compare the words "bit" and "bid".

The following diagrams indicate some of the positions of the tongue.



_____ tongue position for [i]
-------tongue position for [u]
.....tongue position for [a]

Once the students have seen the above diagram, the following chart can be conveniently used to show the tongue positions of the simple vowels - i.e. those vowels represented in phonemic transcription by only one symbol.

i ɪ		u ʊ
ɛ	ə	ɔ
æ	ɑ	

Vowel sounds probably need more drill than consonant sounds because one might say that all English vowels are, to a lesser or greater degree, new to the student. A very useful drill device - the Sound Square - can be found on pages 7 and 26 of Supplementary Material - An Introduction to Canadian English. The following are just two lines taken from a square to give you some idea of how it works:

beat	bit	bet	bat	but	bought	boat	book	boot
Pete	pit	pet	pat	putt	pot	pole	put	pool

Horizontal drill gives exercise in producing and distinguishing the vowel sounds while reinforcing a single initial consonant sound. Vertical drill gives exercise in producing and distinguishing consonant sounds while reinforcing a single vowel sound.

Detailed discussion of the vowel and consonant sounds

Front Vowels

/i/ as in "sheep" and /ɪ/ as in "ship"

We have all probably heard a student say what sounded to us like "I came to Canada by sheep". This mispronunciation stems from the fact that the student is using a vowel which is higher and tenser than our /ɪ/ and resembles our /i/. Show the student that /i/ is tense - make a fist; and that /ɪ/ is relaxed - relax your hand. Practise the two sounds separately and then in minimal word pairs.

/i t/	/ɪ t/
eat	it
/bi t/	/bɪt/
beet	bit etc.

and sentences - He beat the dog.

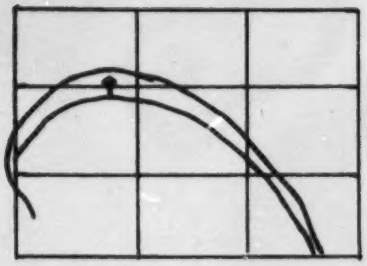
He bit the dog.

and finally contrast the two sounds in the same sentence

"Don't eat it".

"Don't sit on that seat".

We have also probably heard students say what sounded to us like "I slip on a couch". This mispronunciation may stem from the fact that the student is using a vowel which resembles the English /i/ but lacks the off-glide that we have in the English vowel. In some phonemic transcriptions /i/ is shown as /iy/. It might be useful to use this latter symbol in your classroom since it shows so clearly that the tongue, in producing this sound, moves from an initial position to the position for /y/. Omission of the /y/ off-glide can lead to the misunderstanding mentioned above.

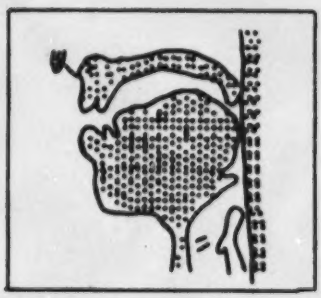


The change in tongue position for [eɪ]

/ɛ/ as in "bet" and /eɪ/ as in "bait".

As is clearly shown by the phonemic transcription and the diagram /eɪ/ is slightly diphthongized - that is, it contains a /y/ offglide. Many foreign speakers fail to pronounce the offglide and in consequence their pronunciation for example, of the word "paper" sounds to a Canadian like "pepper". Teach /ɛ/ and /eɪ/ separately and in contrast in exercises like those shown for /ɪ/ and /i/.

/æ/ - low front vowel

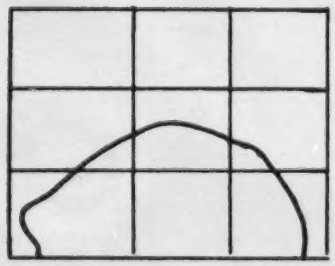


Tongue position for /æ/

This sound is quite difficult for many students since it does not closely resemble any sound in their own language. German students will often substitute the higher vowel /ɛ/ for /æ/ and will need minimal pair drills contrasting these two sounds. Other students often substitute the vowel /a/ for /æ/. In producing /æ/ the tip of the tongue touches the back of the lower teeth. The sides of the tongue do not touch the upper teeth at all.

Central vowels

/ə/ - mid central vowel - known as the schwa.



Tongue position for [ə]

This is an extremely important sound to teach. It occurs not only in such words as "but, putt" but as the vowel sounds in unstressed syllables. As such it can occur

1. Initially - "about, addition". The "a" in "addition" is not pronounced as /æ/ except when contrasted with "edition" as in the sentence "I said addition not edition".

2. Medially - enemy, frequently

3. Finally - sofa

The vowels underlined above are said to be weakened or reduced. They have been replaced by the /ə/. Failure to reduce or weaken vowels in unstressed syllables is one of the chief characteristics of a foreign accent. (Conversely, a Canadian studying Spanish might read "We cannot emphasize enough how disastrous the English habit of vowel reduction under weak stress is to even a modestly satisfactory pronunciation of Spanish").

You can show your students this feature of English pronunciation by listing words like the following:

sét	córset	In the first column the vowel is in a stressed syllable and thus has its full value. The vowel sound in "land" is /æ/; in "set" it is /ɛ/. However in the second column the vowel sound in "land" and "set" is reduced since now these syllables are weakly stressed.
lánd	Póland	
mán	wóman	
bé	betwéen	

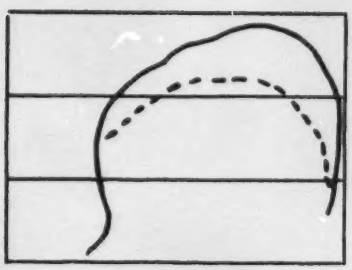
Production of /ə/

The following is taken from Supplementary Material - An Introduction to Canadian English.

"If you wish to demonstrate the sound of this vowel in isolation, hold your mouth in a relaxed open position and make the slightest grunt. Now include this in a syllable, perhaps the first syllable of "police" - "puh". Now add the second syllable with firm stress. Say them together and then have the class repeat the sequence after you. There should be only the slightest sound between "p" and "l". Greater stress on the second syllable will help to reduce the first. Use the words of more than one syllable from all material taught up to this point for drills on this sound".

Back Vowels

/ʊ/ in "look" and /u/ in "Luke" - high back vowels /u/ higher than /ʊ/



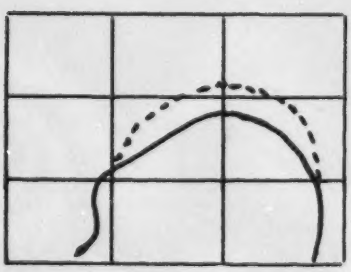
_____ Tongue position for [u]

------Tongue position for [ʊ]

/u/ is a tense vowel produced with lips rounded.
/ʊ/ is a relaxed vowel produced with lips slightly rounded.

Students may have difficulty with the /ʊ/ sound. The same technique as was used for showing the difference between /i/ and /ɪ/ - making a fist to show tension, relaxing the hand to show relaxation - can be used to differentiate /u/ and /ʊ/.

/u/ is sometimes transcribed as /uw/ to indicate offglide.



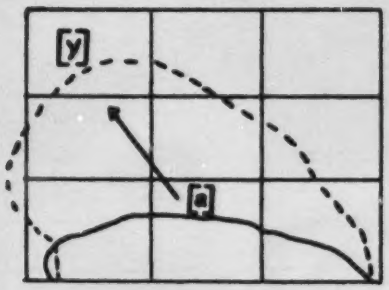
Change in Tongue position for [ow]

/ow/ mid back vowel.
Lips are rounded and muscles tense. As shown by the diagram and phonemic transcription /ow/ is slightly diphthongized - the tongue going from its initial position to the high back position -(/w/ offglide).

Sometimes this sound is undiphthongized in semi-stressed or unstressed positions The undiphthon gized form has been transcribed as /o/.

/oy/ as in "boy"

The first part is pronounced for a longer time than the second.

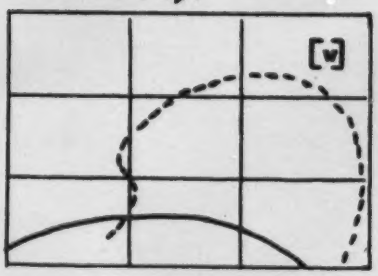


Change in tongue position for /ay/

/ay/ "buy" "bide" "live" (Adjective)

Variant

Note that in such words as "bite, life" (voiceless final consonant). Ontario speakers use a variant of /ay/. This variant is / əy /.



Change in tongue position for /aw/

/aw/ bough, house (verb) bowed.

Ontario speakers pronounce "House" (noun) and "bout" with the variant /əw/

Drills and Tests

The book English Pronunciation prepared by the English Language Institute at Ann Arbor contains a great number of useful drills. The following is one such drill (with some modifications and additions).

Pronunciation of irregular past forms of verbs

arranged as in the vowel chart

did		knew, flew, blew, threw took, stood, shook
came, made, ate, gave spent, lent, sent bent, felt, met, left read, led, fed	was	spoke, broke, told sold, wrote
had drank, sang, began swam	bought, brought caught, taught faught, tought got, forgot	

Useful information and drills can be found too in the Sound Studies and the Teacher's manual to be used with it. (Part of the Let's Speak English series). The following is an extract from the teacher's manual dealing with a pronunciation test and its administration.

> Administering a phonology test is relatively simple. First put on the board the following example: a) coat; b) man; c) coat. Pronounce them. Ask the class which one stands by itself. Show them that man is the answer. Then write a large (b) down next to it for the answer.
>
> Now do the samething with three more examples. 1. a) ball; b) mine; c) mine. Write down the answer (a) next to it for the answer. 2. a) kind; b) kind; c) cap. (c) and finally use number 3. a) bang; b) base; c) bang. (b)

The students are now ready for the test. Simply have them number consecutively. Then the teacher reads out each item twice, and the student writes the correct letter. The tests are intended to be used after the sounds tested have been taught and drilled.

Test /i/ and /ɪ/

1. a. billing
   b. filling
   c. feeling

2. a. steeple
   b. stipple
   c. stipple

3. a. her ship
   b. her sheep
   c. her sheep

4. a. slipper
   b. slipper
   c. sleeper

5. a. heed them
   b. hid them
   c. heed them

Teachers can easily devise similar drills for other sounds.

Checklist of Pronunciation Problems of: French, German, Greek, Hungarian, Italian, Japanese, Portuguese Chinese and Spanish students.

General

a. All students require

1. stress, rhythm and intonation drills — page 1 to 9
2. vowel and diphthong drills especially — page 32 to 38
   contrasting [i] and [ɪ] "sheep" "ship"
   [ɛ] and [æ] "pepper" "paper"
   [u] and [ʊ] "Luke" "look"
3. practice in producing the distinctive North American r — page 30
4. initial and final consonant cluster drills — page 31

b. Most students need

1. practice aspirating initial stops [p, t, k]. If not aspirated these tend to sound like [b, d, g]. — page 20
2. practice producing [ŋ] without adding a [g] or [k] (non-critical error) — page 27
3. practice producing the "dark" l (non-critical) — page 28

Below are listed some additional difficulties.

French

1. the following sounds do not exist in French.

[dʒ]	-	"George"	page 26
[θ]	-	"thank"	page 23
[ð]	-	"this"	page 23
[tʃ]	-	"church"	page 26
[h]	-	"house"	page 25

2. French students tend to nasalize vowels, i.e. pronounce them with the nasal passage at least partially open.

3. Stress falls on the last syllable of the breath group in French and students tend to transfer this stress pattern to English. In the following sentence

"Je suis allé à Paris pour le voir"

stress falls on the syllables underlined and the voice rises on the syllable "is" in "Paris". Note the effect of transferring the above pattern to the English sentence

"I went to Paris to see it".

German

Description of sound and corrective drill

1. Tend to devoice final [b,d,g,v,z] that is, to substitute [p,t,k,f,s] for the above sounds when they appear in final positions - "cab" pronounced as "cap" etc. — Page 20-24

2. Difficulty contrasting [tš] and [dž] - "choke" "joke" — Page 26
   [w-] and [v-] - "west" "vest" — Page 23,28

3. The sounds [θ] "thank"
   [ð] "this"
   do not exist in German. — Page 23

4. "st" and "sp" in initial positions in German are pronounced as "sht" and "shp". Thus "stole" and "speak" tend to be pronounced as "shtole" and "shpeak".

Greek

1. The sounds š, tš, ž, dž, (shoe, chew, pleasure, George) do not exist in Greek and students will tend to substitute [s, ts, z, dz] for the above. — Page 25, 26

2. [h] is produced with considerable friction and sounds like the final sound in the Scottish word "loch". Extra practice will be necessary with [h] when followed by front vowels where Greeks will tend to substitute for it a sound somewhat resembling the English [š] "sheep". This substitution will result in difficulty contrasting "he" and "she" etc. — Page 25

3. Medial and final [d] often pronounced as [nd] . Thus "had" would be pronounced as "hand" and "fodder" as "fonder". Medial and final [b] often pronounced as [mb] and results in difficulty distinguishing "bubble" and "bumble". Medial and final [g] often pronounced as [ŋg] and results in difficulty distinguishing "juggle" and "jungle". — Page 21

4. All medial stops preceded by nasals are voiced in Greek. Thus "jumper" would be pronounced as "jumber" "monkey" would be pronounced as "mongey", and there will be confusion between such pairs as anger/anchor, lumber/lumper, mound/mount, simple/symbol, angle/ankle.

5. Final consonant sounds are practically non-existent in Greek, with the exception of the frequent [s] and [n] and the rare [l] and [r]. Hence Greeks will tend, as do Italians, to introduce a vowel sound after final English consonant sounds. With the exception of [n,l,r] all final consonant sounds, when they do occur in Greek, are voiceless. Greeks will therefore have difficulty with English final stops [b, d, g,] and fricatives [v, ð, z] even though these sounds will present no difficulty when occurring in other positions. — Page 20-24

6. Greeks tend to say

"zmile" for "smile"
"znake" for "snake"
"zleep" for "sleep"
"foodball" for "football"

that is, they will voice the first consonant of a cluster if the second consonant is voiced.

Hungarian

1. Stress falls regularly on the first syllable of Hungarian words.

2. The following consonant sounds do not occur in Hungarian.

[θ]	thank	Page 23
[ð]	then	Page 23
[w]	went	Page 26
[dž]	George	Page 28

3. The following single consonant letters in Hungarian represent sound values quite unlike those represented by the same letters in English and this might result in pronunciation errors (spelling pronunciations).

Hungarian letter	approximate value in English
c	ts as in "biscuits"
j	y as in "yell"
s	š as in "shell"

Italian

1. The following consonant sounds are not found in Italian

[h]	"house"	Page 25
[θ]	"thank"	Page 23
[ð]	"then"	Page 23
[ž]	"pleasure"	Page 25
[w]	"west" NOTE: When [u] as in word "rule" is unstressed and occurs before another vowel, it is pronounced almost like [w] . Example "uomo" However the letter itself does not appear in the Italian alphabet and it is likely to be pronounced as [v] unless practice is given.	

"you" Note: When [i] is unstressed and occurs before another vowel, it is pronounced almost like the English [y]. Example: "ieri".

2. [s] often pronounced as [z] before voiced consonants "smoke" pronounced as "zmoke". Page 24

3. Almost every word in Italian ends in a vowel. As a result of this, Italians tend to insert a vowel between consonants, pronouncing "I'm going" for example as "I'm a going" and "breakfast" as "breakafast". Beating out time or using dots and dashes sometimes helps correct this error. Show the student that "I'm going" is .____.
not ..____.

For other corrective exercises see page 22 /t,d/ inflections.

Japanese

1. Difficulty contrasting [h] and [f] because in Japanese every phrase containing [h] before [u] and [w] is paralleled by an otherwise identical synonymous phrase containing [f] instead. Every phrase containing [f] is paralleled by an otherwise identical synonomous phrase containing [h] instead.

2. Difficulty contrasting [l] and [r]. Japanese [l] and [r] are both short alveolar flaps. Every phrase in Japanese containing [l] is paralleled by an otherwise identical synonymous phrase containing [r] instead. [l] is less common than [r] and in the speech of many persons does not occur at all.

3. The following consonant sounds do not exist in Japanese

[θ] "thank" Page 23

[ð] "then" Page 23

[v] "veranda" Page 23

4. Japanese students, like Italians tend to introduce a vowel between a final consonant of one syllable or word and the initial consonant of the next syllable or word. "Hopeful" for example, would be pronounced as "hopaful" and "I'm going" as "I'm a going". See under Italian for corrective drills.

5. Students tend to transfer the staccato rhythm of Japanese to English.

Portuguese

1. the following consonant sounds do not exist in Portuguese.

[h] "hand" Page 27

[θ] "thank" Page 23

[tš] "church" Page 26

[dž] "judge" Page 26

2. Although the sound [ð] as in "then" exists in Portuguese it is only an allophone of the phoneme /d/. It never occurs initially. Students might have difficulty with words beginning with [ð]. Page 11

3. Students tend to nasalize English vowels.

4. In Portuguese [s] often changes to [ʃ] [š] ("shoe") and [ʒ] ("pleasure").

Spanish

1. The following consonant sounds do not exist in Spanish.

š	"shoe"	Page 25
ž	"pleasure"	Page 25
dž	"judge"	Page 26

2. The sound [θ] as in "thank" exists only in Castillian Spanish.

3. The sound [ð] as in "then" exists as an allophone (variant) of the phoneme /d/. It does not occur initially in Spanish and so the student will have difficulty with words beginning with [ð].

4. The consonant sound [h] does not exist in Spanish and may either be omitted - "hear" pronounced as "ear"; or be replaced by the Spanish [x] (as in Scottish "loch".) However in South American Spanish the [x] does resemble our English [h].

5. [z] exists as an allophone of [s]. Students will have difficulty distinguishing pairs like

peace	pess
sip	zip

6. Students have the tendency to pronounce initial [y] like [dž]. Their pronunciation of "yet" sounds like "jet".

7. Tendency to introduce the sound "e" before initial consonant clusters beginning with an "s". Thus "school" sounds like "eschool", "space" like "espace" etc.

8. Difficulty contrasting [v] and [b]. "very" sounds like "berry".

9. Fail to close lips completely for final [m]

PRONUNCIATION PROBLEMS OF CHINESE STUDENTS

Chinese

Immigrants before World War II - Cantonese; after war more likely to speak Mandarin than any other Chinese dialect.

1. No voiced stops or affricates. Chinese speakers will need guidance in hearing and pronouncing the English /b,d,g,dʒ/ correctly. They don't have too much difficulty distinguishing between contrasting pairs of English words such as "pin, bin", "tea, bea", since one of each pair is aspirated, but they will have difficulty with "back, bag", "hit, hid", "cup, cub" when the aspiration in the final position is considerably weaker or sometimes omitted.

Sibilants

Chinese must learn thevoiced /z/ and /ʒ/ and to distinguish between contrastive pairs such as "sue, zoo", "sip, zip", "rice, rise", "ice, eyes". He may also have difficulty distinguishing /tʃ/ from /ʃ/ as in "wash, watch", "catch, cash".

Fricatives

Don't have /v θ, ð/. The [v] sound seems particularly troublesome. It easily becomes, for the Mandarin or Cantonese speaker, the more familiar /f/ or /w/ and contrastive pairs of English words such as "vine" and "fine" or "vine" and "wine" are likely to present a problem in discrimination and pronunciation.

Instead of /h/ Mandarin Chinese has a velar fricative [x]. However since no phonemic contrast is involved in either language the /h/ sound seldom presents a problem to the Chinese speaker.

Clusters

Such combinations as /pr, tr, kr, br, dr, gr, fr, θr, pl, tl, kl, bl, dl, gl, fl/ which abound in English are rather complicated to a Chinese speaker who never uses such clusters in his native tongue. For the speaker of Cantonese who does not have the retroflex /r/ in his native dialect, contrastive pairs like "blue, brew, plays, praise, glass, grass, fly, fry" could be quite confusing until after much practice.

Final Consonant

Mandarin has only 3 [n] [ŋ] and the retroflex /r/. The Mandarin speaker who encounters any final consonant other than these may drop it entirely or add a schwa. Thus "I have" and "he has" are pronounced [ai hæv ə] [hi hæz ə]. The Cantonese speaker on the other hand, has six final consonants in his native dialect [m, n, ŋ, p, t, k] and should not have too much difficulty with the English final consonants except thevoiced stops, affricates, and fricatives.

Chinese - Intonation

A question in Chinese is signaled by a participle attached at the end of the sentence; in English, the yes-no type question is often signaled by the rising intonation - a fact the Chinese speaker is not aware of unless it is explicitly pointed out to him.